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CLEVELAND, OH 44114

EXAMINER

ARNOLD, ADAM

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2697

DATE MAILED: 09/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/821,126

Applicant(s)

ROBERTSON ET AL.

Examiner

Adam Arnold

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-24, 30-44 and 50-72 is/are rejected.
- 7) ☒ Claim(s) 5-9, 25-29 and 45-49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 42 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In the rejections below, the examiner assumes the claim was intended to be dependent on claim 23, rather than claim 22.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 10-14, 16-24, 30-34, 36-44, 50-54, 56-64 and 67-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strasnick, U.S. Patent No. 5,555,354. Referring to claim 1, Strasnick discloses a system for navigating a virtual body within a 3D virtual workspace (col. 2, lines 15-19), comprising an input drive control system operable to monitor changes in input variables associated with actions of a user input device (col. 8, lines 52-57); a workspace control system operable to provide a user with a viewing context having a position and orientation associated with a plurality of workspace variables (col. 16, lines 18 and 38); the input device coupled to at least one of the workspace variables such that selection of one of the

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workspace variables allows user input to change its state (col. 2, lines 61-65); and a change in position and orientation (col. 18, lines 17-22, i.e. changing direction) wherein the change takes place over time such that the user is made aware of the change in position and orientation of the viewing context (col. 17, line 62 through col. 18, line 5). Strasnick does not disclose where the user deselects the workspace variable or input device. At the time the invention was made, it would have been obvious to one of ordinary skill in the art that selecting one workspace variable while the input device is manipulated constitutes deselecting another. One of ordinary skill in the art would have been motivated to do this in order to provide the user a more realistic perspective of travel towards a destination (col. 18, line 15).

Referring to claim 2, Strasnick discloses where a travel control system couples the input drive control system to the workspace variables based on a navigation type (col. 8, lines 51-57).

Referring to claim 3, Strasnick discloses where the input variables comprise speed (col. 16, line 50), position (col. 16, line 40), and selection data (col. 15, line 58).

Referring to claim 4, Strasnick discloses where the workspace variables comprise object state (col. 2, line 21), environment state (col. 10, line 20), and virtual body state (col. 8, line 53).

Referring to claim 10, Strasnick discloses where an object can be selected creating a copy of the object where the viewing context assumes the new position and orientation of the copy upon deselection (col. 14, line 43).

Referring to claim 11, Strasnick discloses where the copy is manipulated to a new position creating a second viewing context within the position (col. 14, line 43 and col. 13, line 5).

Referring to claim 12, Strasnick discloses where multiple copies are created and manipulated to a new position (col. 14, line 43) and destroyed upon deselection of the object. (This is analogous to creating copies and then deleting them, col. 13, line 22).

Referring to claim 13, Strasnick discloses where the viewing context can be adjusted to the position and orientation of the object, possessing the object (col. 9, lines 27-31).

Referring to claim 14, Strasnick discloses where objects inside and outside a radius centered on a virtual body are changed to eliminate occlusions (col. 16, line 22).

Referring to claim 16, Strasnick discloses where objects within a certain distance are reduced in size to eliminate occlusion (col. 20, lines 2-10).

Referring to claim 17, Strasnick discloses where the reduced size of the object depends on the distance from the virtual body (col. 20, line 2, i.e. zooming to a particular radius).

Referring to claim 18, Strasnick does not explicitly disclose where objects outside the radius are changed to enlarged size. It can be interpreted from the disclosure of reducing the size of objects within a radius (claim 17), that the remaining objects outside the radius will have increased in size relative to those inside.

Referring to claim 19, the arguments presented above with respect to claims 17 and 18 apply to this claim.

Referring to claim 20, Strasnick discloses where the radius is movable and the virtual body state is fixed (col. 8, line 53—"free flight navigation.")

Referring to claim 21, Strasnick discloses where the radius is adjustable and the virtual body (or view) is fixed (col. 9, line 4—"zoom navigation.")

Referring to claim 22, Strasnick discloses where a selection of the environment causes a ground plane to be compressed around a virtual body, allowing navigation within the plane (col. 9, lines 60-65).

Referring to claim 23, Strasnick discloses a processor, display and memory (col. 6, lines 11-22). Otherwise, the arguments presented above with respect to claim 1 apply equally to this claim.

Referring to claim 24, the arguments presented above with respect to claim 2 apply equally to this claim.

Referring to claim 30, the arguments presented above with respect to claim 1 and 10 apply equally to this claim.

Referring to claim 31-34 and 36-41, the arguments presented above with respect to claim 10-14 and 16-21, respectively, apply equally to this claim.

Referring to claim 41, the arguments presented above with respect to claim 2 apply equally to this claim.

Referring to claim 42, the arguments presented above with respect to claim 22 apply equally to this claim.

Referring to claims 43 and 44, the arguments presented above with respect to claims 1 and 2, respectively, apply equally to this claim.

Referring to claims 50-54 and 56-61, the arguments presented above with respect to claims 10-14 and 16-21, respectively, apply equally to this claim.

Referring to claim 62, the arguments presented above with respect to claim 22 apply equally to this claim.

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Referring to claim 63, the arguments presented above with respect to claim 1 apply equally to this claim.

Referring to claim 64, the arguments presented above with respect to claim 1 apply equally to this claim.

Referring to claims 67, the arguments presented above with respect to claim 10 apply equally to this claim.

Referring to claims 68, the arguments presented above with respect to claim 11 apply equally to this claim.

Referring to claims 69, the arguments presented above with respect to claim 13 apply equally to this claim.

Referring to claims 70, the arguments presented above with respect to claim 14 apply equally to this claim.

Referring to claim 71, the arguments presented above with respect to claim 22 apply equally to this claim.

Referring to claim 72, the arguments presented above with respect to claim 1 apply equally to this claim.

3. Claims 15, 35 and 55 are rejected under 35 U.S.C. 103(a) as being obvious over Strasnick, in view of Lengyel, U.S. Patent No. 6,064,393.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

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inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2). Referring to claim 15, Strasnick does not disclose where the state of the object within the radius is changed to a transparent state. Lengyel discloses uses transparency to avoid occlusion (col. 12, lines 47-50). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to change the state of the object within a radius to a transparent state to eliminate occlusion. One of ordinary skill in the art would have been motivated to do this in order to get a better view of objects within the selected area.

Referring to claims 35 and 55, the arguments presented above with respect to claim 15 apply equally to this claim.

4. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strasnick in view of Igarashi. Strasnick does not disclose coupling forward speed of the user input device to the height and tilt of the virtual body. Igarashi discloses coupling the scrolling speed with the zoom level of the display, so that the perceptual scrolling speed remains constant (paragraph 1, line 2-



5). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to couple forward speed of the input device to the height and tilt of the virtual body. One of ordinary skill in the art would have been motivated to do this in order to provide a smoother, less visually disorienting display.

5. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strasnick in view of Zeleznik. Strasnick does not disclose means for orbiting a selected object. Zeleznik discloses a 3D virtual environment with camera means for orbiting about a point (paragraph 1, line 12). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to have a means for orbiting a selected object. One of ordinary skill in the art would have been motivated to do this in order to provide the viewer with more control over the visual environment.

***Allowable Subject Matter***

6. Claims 5-9, 25-29, 45-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance: The prior art does not anticipate, nor does it suggest, the system as claimed in claims 5-9, 25-29 and 45-48. The prior art of record does not include where the deselection of the user input device causes the position and orientation of the virtual body to glide down to a location within a viewing frustum along a ground plane in the 3D virtual workspace.

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The prior art does not anticipate, nor does it suggest, the system as claimed in claim 49. The prior art of record does not include where dragging the input device forward and backward moves the viewing context from the virtual body toward and away from the object and dragging the input device left or right orbits the viewing context from the virtual body around the object.

The above indicated limitations, particularly in combination with the other limitations in the respective claims are not anticipated or suggested by the prior art.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Adam Arnold** whose telephone number is **703-305-8413**. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso, can be reached at (703) 305-3885.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231


**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

  
MARK ZIMMERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600